

SEQUENCE LISTING

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<120> METHODS FOR IDENTIFYING INHIBITORS OF CHLOROPHYLL SYNTHASE

<130> 2191US

<160> 7

<170> PatentIn version 3.2

<210> 1
<211> 387
<212> PRT
<213> Arabidopsis thaliana

<400> 1

Met Thr Ser Ile Leu Asn Thr Val Ser Thr Ile His Ser Ser Arg Val
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Thr Ser Val Asp Arg Val Gly Val Leu Ser Leu Arg Asn Ser Asp Ser
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Val Glu Phe Thr Arg Arg Ser Gly Phe Ser Thr Leu Ile Tyr Glu
35 40 45

Ser Pro Gly Arg Arg Phe Val Val Arg Ala Ala Glu Thr Asp Thr Asp
50 55 60

Lys Val Lys Ser Gln Thr Pro Asp Lys Ala Pro Ala Gly Gly Ser Ser
65 70 75 80

Ile Asn Gln Leu Leu Gly Ile Lys Gly Ala Ser Gln Glu Thr Asn Lys
85 90 95

Trp Lys Ile Arg Leu Gln Leu Thr Lys Pro Val Thr Trp Pro Pro Leu
100 105 110

Val Trp Gly Val Val Cys Gly Ala Ala Ala Ser Gly Asn Phe His Trp
115 120 125

Thr Pro Glu Asp Val Ala Lys Ser Ile Leu Cys Met Met Met Ser Gly
130 135 140

Pro Cys Leu Thr Gly Tyr Thr Gln Thr Ile Asn Asp Trp Tyr Asp Arg
145 150 155 160

Asp Ile Asp Ala Ile Asn Glu Pro Tyr Arg Pro Ile Pro Ser Gly Ala
165 170 175

Ile Ser Glu Pro Glu Val Ile Thr Gln Val Trp Val Leu Leu Leu Gly
180 185 190

Gly Leu Gly Ile Ala Gly Ile Leu Asp Val Trp Ala Gly His Thr Thr
195 200 205

Pro Thr Val Phe Tyr Leu Ala Leu Gly Gly Ser Leu Leu Ser Tyr Ile
210 215 220

Tyr Ser Ala Pro Pro Leu Lys Leu Lys Gln Asn Gly Trp Val Gly Asn
225 230 235 240

Phe Ala Leu Gly Ala Ser Tyr Ile Ser Leu Pro Trp Trp Ala Gly Gln
245 250 255

Ala Leu Phe Gly Thr Leu Thr Pro Asp Val Val Leu Thr Leu Leu
260 265 270

Tyr Ser Ile Ala Gly Leu Gly Ile Ala Ile Val Asn Asp Phe Lys Ser
275 280 285

Val Glu Gly Asp Arg Ala Leu Gly Leu Gln Ser Leu Pro Val Ala Phe
290 295 300

Gly Thr Glu Thr Ala Lys Trp Ile Cys Val Gly Ala Ile Asp Ile Thr
305 310 315 320

Gln Leu Ser Val Ala Gly Tyr Leu Leu Ala Ser Gly Lys Pro Tyr Tyr
325 330 335

Ala Leu Ala Leu Val Ala Leu Ile Ile Pro Gln Ile Val Phe Gln Phe
340 345 350

Lys Tyr Phe Leu Lys Asp Pro Val Lys Tyr Asp Val Lys Tyr Gln Ala
355 360 365

Ser Ala Gln Pro Phe Leu Val Leu Gly Ile Phe Val Thr Ala Leu Ala
370 375 380

Ser Gln His
385

<210> 2
<211> 541
<212> PRT
<213> Orzya sativa

<400> 2

Met Thr Thr Val Ala Ser Leu Ser Leu Leu Pro His Leu Leu Ile Lys
1 5 10 15

Pro Ser Phe Arg Cys Cys Ser Arg Lys Gly Val Gly Arg Tyr Gly Gly
20 25 30

Ile Lys Val Tyr Ala Val Leu Gly Asp Asp Gly Ala Asp Tyr Ala Lys
35 40 45

Asn Asn Ala Trp Glu Ala Leu Phe His Val Asp Asp Pro Gly Pro Arg
50 55 60

Val Pro Ile Ala Lys Gly Lys Phe Leu Asp Val Asn Gln Ala Leu Glu
65 70 75 80

Val Val Arg Phe Asp Ile Gln Tyr Cys Asp Trp Arg Ala Arg Gln Asp
85 90 95

Leu Leu Thr Ile Met Val Leu His Asn Lys Val Val Glu Val Leu Asn
100 105 110

Pro Leu Ala Arg Glu Phe Lys Ser Ile Gly Thr Leu Arg Lys Glu Leu
115 120 125

Ala Glu Leu Gln Glu Glu Leu Ala Lys Ala His Asn Gln Val His Leu
130 135 140

Ser Glu Thr Arg Val Ser Ser Ala Leu Asp Lys Leu Ala Gln Met Glu
145 150 155 160

Thr Leu Val Asn Asp Arg Leu Leu Gln Asp Gly Gly Ser Ser Ala Ser
165 170 175

Thr Ala Glu Cys Thr Ser Leu Ala Pro Ser Thr Ser Ser Ala Ser Arg
180 185 190

Val Val Asn Lys Lys Pro Pro Arg Arg Ser Leu Asn Val Ser Gly Pro
195 200 205

Val Gln Pro Tyr Asn Pro Ser Leu Lys Asn Phe Trp Tyr Pro Val Ala
210 215 220

Phe Ser Ser Asp Leu Lys Asp Asp Thr Met Val Pro Ile Asp Cys Phe
225 230 235 240

Glu Glu Gln Trp Val Ile Phe Arg Gly Lys Asp Gly Arg Pro Gly Cys
245 250 255

Val Met Asn Thr Cys Ala His Arg Ala Cys Pro Leu His Leu Gly Ser
260 265 270

Val Asn Glu Gly Arg Ile Gln Cys Pro Tyr His Gly Trp Glu Tyr Ser
275 280 285

Thr Asp Gly Lys Cys Glu Lys Met Pro Ser Thr Lys Met Leu Asn Val
290 295 300

Arg Ile Arg Ser Leu Pro Cys Phe Glu Gln Glu Gly Met Val Trp Ile
305 310 315 320

Trp Pro Gly Asn Asp Pro Pro Lys Ser Thr Ile Pro Ser Leu Leu Pro
325 330 335

Pro Ser Gly Phe Thr Ile His Ala Glu Ile Val Met Glu Leu Pro Val
340 345 350

Glu His Gly Leu Leu Leu Asp Asn Leu Leu Asp Leu Ala His Ala Pro
355 360 365

Phe Thr His Thr Ser Thr Phe Ala Lys Gly Trp Ser Val Pro Ser Leu
370 375 380

Val Lys Phe Leu Thr Pro Ser Ser Gly Leu Gln Gly Tyr Trp Asp Pro
385 390 395 400

Tyr Pro Ile Asp Met Glu Phe Arg Pro Pro Cys Met Val Leu Ser Thr
405 410 415

Ile Gly Ile Ser Lys Pro Gly Lys Leu Glu Gly Lys Ser Thr Lys Gln
420 425 430

Cys Ser Thr His Leu His Gln Leu His Ile Cys Leu Pro Ser Ser Arg
435 440 445

Asn Lys Thr Arg Leu Leu Tyr Arg Met Ser Leu Asp Phe Ala Pro Trp
450 455 460

Ile Lys His Val Pro Phe Met His Ile Leu Trp Ser His Phe Ala Glu
465 470 475 480

Lys Val Leu Asn Glu Asp Leu Arg Leu Val Leu Gly Gln Gln Glu Arg
485 490 495

Met Ile Asn Gly Ala Asn Val Trp Asn Trp Pro Val Ser Tyr Asp Lys
500 505 510

Leu Gly Ile Arg Tyr Arg Leu Trp Arg Asp Ala Ile Glu Arg Gly Val
515 520 525

Asp Arg Leu Pro Phe Ser Asn Gln Ser Glu Ser Gly Ser
530 535 540

<210> 3
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<212> PRT
<213> Avena sativa

<400> 3

Met Ala Thr Ser His Pro Leu Ala Ala Ala Ala Ala Ala Thr Ser Ser Ser
1 5 10 15

Ser Ala Thr Phe Arg Pro Pro Leu Arg Phe Leu Ser Ser Pro Pro Ser
20 25 30

Ser Leu Thr Leu Asn Arg Arg Arg Ser Phe Pro Val Val Cys Ala Ala
35 40 45

Asp Ala Asp Ala Lys Glu Thr Thr Lys Lys Pro Thr Ile Pro Asp Lys
50 55 60

Ala Pro Ala Ala Gly Ser Ser Phe Asn Gln Leu Leu Gly Ile Lys Gly
65 70 75 80

Ala Lys Gln Glu Thr Asn Ile Trp Lys Ile Arg Leu Gln Leu Thr Lys
85 90 95

Pro Val Thr Trp Pro Pro Leu Val Trp Gly Val Leu Cys Gly Ala Ala
100 105 110

Ala Ser Gly Asn Phe His Trp Thr Val Glu Asp Val Thr Lys Ser Ile
115 120 125

Val Cys Met Leu Met Ser Gly Pro Cys Leu Thr Gly Tyr Thr Gln Thr
130 135 140

Ile Asn Asp Trp Tyr Asp Arg Asp Ile Asp Ala Ile Asn Glu Pro Tyr
145 150 155 160

Arg Pro Ile Pro Ser Gly Ala Ile Ser Glu Asn Glu Val Ile Thr Gln
165 170 175

Ile Trp Val Leu Leu Leu Gly Gly Leu Gly Leu Gly Ala Leu Leu Asp
180 185 190

Ile Trp Ala Gly His Asp Phe Pro Ile Ile Phe Tyr Leu Ala Leu Gly
195 200 205

Gly Ser Leu Leu Ser Tyr Ile Tyr Ser Ala Pro Pro Leu Lys Leu Lys
210 215 220

Gln Asn Gly Trp Ile Gly Asn Phe Ala Leu Gly Ala Ser Tyr Ile Gly
225 230 235 240

Leu Pro Trp Trp Ala Gly Gln Ala Leu Phe Gly Thr Leu Thr Pro Asp
245 250 255

Ile Val Val Leu Thr Cys Leu Tyr Ser Ile Ala Gly Leu Gly Ile Ala
260 265 270

Ile Val Asn Asp Phe Lys Ser Ile Glu Gly Asp Arg Thr Leu Gly Leu
275 280 285

Gln Ser Leu Pro Val Ala Phe Gly Met Glu Thr Ala Lys Trp Ile Cys
290 295 300

Val Gly Ala Ile Asp Ile Thr Gln Leu Ser Val Ala Ala Tyr Leu Leu
305 310 315 320

Ser Thr Gly Lys Leu Tyr Tyr Ala Leu Ala Leu Leu Gly Leu Thr Ile
325 330 335

Pro Gln Val Ile Leu Gln Phe Gln Tyr Phe Leu Lys Asp Pro Val Lys
340 345 350

Tyr Asp Val Lys Tyr Gln Ala Ser Ala Gln Pro Phe Phe Val Phe Gly
355 360 365

Leu Leu Val Thr Ala Leu Ala Thr Ser His
370 375

<210> 4
<211> 380
<212> PRT
<213> Artificial

<220>
<223> Arabidopsis thaliana fusion protein

<400> 4

Met His His His His His Ser Ser Gly Leu Val Pro Arg Gly Ser
1 5 10 15

Gly Met Lys Glu Thr Ala Ala Ala Lys Phe Glu Arg Gln His Met Asp
20 25 30

Ser Pro Asp Leu Gly Thr Asp Asp Asp Lys Ala Met Ala Asp Ile
35 40 45

Gly Ser Ala Ala Glu Thr Asp Thr Asp Lys Val Lys Ser Gln Thr Pro
50 55 60

Asp Lys Ala Pro Ala Gly Gly Ser Ser Ile Asn Gln Leu Leu Gly Ile
65 70 75 80

Lys Gly Ala Ser Gln Glu Thr Asn Lys Trp Lys Ile Arg Leu Gln Leu
85 90 95

Thr Lys Pro Val Thr Trp Pro Pro Leu Val Trp Gly Val Val Cys Gly
100 105 110

Ala Ala Ala Ser Gly Asn Phe His Trp Thr Pro Glu Asp Val Ala Lys
115 120 125

Ser Ile Leu Cys Met Met Ser Gly Pro Cys Leu Thr Gly Tyr Thr
130 135 140

Gln Thr Ile Asn Asp Trp Tyr Asp Arg Asp Ile Asp Ala Ile Asn Glu
145 150 155 160

Pro Tyr Arg Pro Ile Pro Ser Gly Ala Ile Ser Glu Pro Glu Val Ile
165 170 175

Thr Gln Val Trp Val Leu Leu Leu Gly Gly Leu Gly Ile Ala Gly Ile
180 185 190

Leu Asp Val Trp Ala Gly His Thr Thr Pro Thr Val Phe Tyr Leu Ala
195 200 205

Leu Gly Gly Ser Leu Leu Ser Tyr Ile Tyr Ser Ala Pro Pro Leu Lys
210 215 220

Leu Lys Gln Asn Gly Trp Val Gly Asn Phe Ala Leu Gly Ala Ser Tyr
225 230 235 240

Ile Ser Leu Pro Trp Trp Ala Gly Gln Ala Leu Phe Gly Thr Leu Thr
245 250 255

Pro Asp Val Val Val Leu Thr Leu Leu Tyr Ser Ile Ala Gly Leu Gly
260 265 270

Ile Ala Ile Val Asn Asp Phe Lys Ser Val Glu Gly Asp Arg Ala Leu
275 280 285

Gly Leu Gln Ser Leu Pro Val Ala Phe Gly Thr Glu Thr Ala Lys Trp
290 295 300

Ile Cys Val Gly Ala Ile Asp Ile Thr Gln Leu Ser Val Ala Gly Tyr
305 310 315 320

Leu Leu Ala Ser Gly Lys Pro Tyr Tyr Ala Leu Ala Leu Val Ala Leu
325 330 335

Ile Ile Pro Gln Ile Val Phe Gln Phe Lys Tyr Phe Leu Lys Asp Pro
340 345 350

Val Lys Tyr Asp Val Lys Tyr Gln Ala Ser Ala Gln Pro Phe Leu Val
355 360 365

Leu Gly Ile Phe Val Thr Ala Leu Ala Ser Gln His
370 375 380

<210> 5
<211> 24
<212> DNA
<213> Artificial

<220>
<223> RT-PCR primer

<400> 5
tcagtgttgc gatgctaatg ccgt

24

<210> 6
<211> 33
<212> DNA
<213> Artificial

<220>
<223> PCR primer 1

<400> 6
ccgggatccg cggcggagac tgatactgat aaa

33

<210> 7
<211> 33
<212> DNA
<213> Artificial

<220>

<223> PCR primer 2

<400> 7

ccgctcgagt cagtgttgcg atgctaatgc cgt

33